

1. TABLE top
Volume

$$\text{Volume} = l \times w \times h$$
$$48" \times 72" \times 1"$$

$$3456 \text{ in}^3$$

$$l \times w \times h$$
$$6' \times 4' \times .083'$$

$$1.992 \text{ ft}^3$$

$$\frac{3456 \text{ in}^3}{1} \times \frac{1 \text{ ft}^3}{1728 \text{ in}^3} = 2 \text{ ft}^3$$

$$1.992 \text{ ft}^3$$

PING PONG BALL

$$V_{\text{sphere}} = \frac{4}{3} \pi r^3$$

$$4 \div 3 \times \pi \times .75 \text{ in} \times .75 \text{ in} \times .75 \text{ in}$$

$$d = 2r$$

$$r = \frac{1}{2}d$$



VOLUME of Flower Pot.

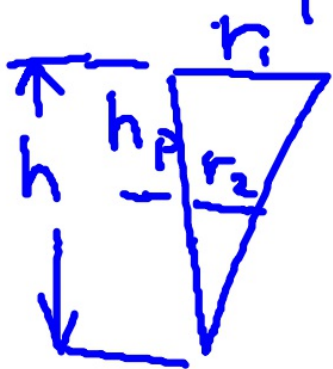
by MATH

$h_p = 4''$ A Flower pot is Kinda like a
 $r_1 = 1.75''$ Cone. The volume of a cone
 $r_2 = .75''$ can be calculated by



$$\frac{1}{3} \pi r^2 h$$

I know r but I do NOT know h



$$\frac{r_1}{h} = \frac{r_2}{h - h_p} \quad \text{then ...}$$

$$\frac{r_2}{r_1} = \frac{h - h_p}{h} = 1 - \frac{h_p}{h}$$

$$\frac{r_2}{r_1} - 1 = -\frac{h_p}{h} \quad ; \quad 1 - \frac{r_2}{r_1} = \frac{h_p}{h}$$

$$h = \frac{h_p}{1 - \frac{r_2}{r_1}} = \frac{4''}{1 - \frac{.75''}{1.75''}} = 7''$$

$$\boxed{h = 7''}$$

$$\begin{aligned} \text{Volume of total cone} &= \frac{1}{3} \pi r^2 h \\ &= .33 \pi (1.75^2)(7) \\ &= 22.22 \text{ in}^3 \end{aligned}$$

$$\begin{aligned} \text{Volume of small cone} &= \frac{1}{3} \pi r^2 (h - h_p) \\ 1.75 \text{ in}^3 &\leftarrow = .33 \pi (.75^2)(3) \end{aligned}$$

$$\begin{array}{r} V_{\text{total cone}} = 22.22 \text{ in}^3 \\ - V_{\text{small cone}} = 1.75 \text{ in}^3 \\ \hline 20.47 \text{ in}^3 \times \frac{16.39 \text{ cm}^3}{\text{in}^3} \end{array}$$

$$\begin{array}{c} \text{Vol pot} = 335.5 \text{ cm}^3 \\ \text{OR} \\ 335.5 \text{ mL} \end{array}$$

OR